

What is claimed is:

1. A method for controlling a damper of a vehicle, said vehicle including a front damper and a rear damper, a damping force of said dampers being controlled by respective data detected by a steering angle sensor, a vehicle speed sensor and a yaw rate sensor, said method comprising the steps of:

10 (a) sensing steering angle data, vehicle speed data and yaw rate data;

(b) calculating a desired yaw rate by using the steering angle data, the vehicle speed data and a specification of the vehicle;

15 (C) comparing the desired yaw rate with the yaw rate data provided from the yaw rate sensor;

(d) determining whether the vehicle is over-steered or under-steered depending on the comparison result obtained in the step (C); and

20 (e) controlling the damping force of the damper in response to the determination result in the step (d).

2. The method of claim 1, wherein if $\delta \cdot (\phi_d - \phi_{ms}) \geq 0$, it is determined in the step (d) that the vehicle is under-steered while if when $\delta \cdot (\phi_d - \phi_{ms}) \leq 0$, it is determined in the step (d) that the vehicle is over-steered, ϕ_d , ϕ_{ms} and δ representing the desired yaw rate, the yaw rate data

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measured by the yaw rate sensor 12 and the steering angle, respectively.

3. The method of claim 1, wherein if it is determined in
5 the step (d) that the vehicle is over-steered, the damping force of the rear wheel is decreased in the step (e) while the damping force of the front wheel is increased and if it is determined in the step (d) that the vehicle is under-steered, the damping force of the rear wheel is increased in
10 the step (e) while the damping force of the front wheel is decreased.

4. A method for controlling a damper of a vehicle, said vehicle including a front damper and a rear damper, a damping force of said dampers being controlled by respective data detected by a steering angle sensor, a yaw rate sensor, a lateral G sensor, a wheel speed sensor and a vehicle speed sensor, said method comprising the steps of:

- (a) sensing steering angle data, yaw rate data, lateral G data, wheel speed data and vehicle speed data;
- (b) calculating a desired yaw rate by using the steering angle data and the vehicle speed data;
- (c) comparing the desired yaw rate with the yaw rate data provided from the yaw rate sensor;
- 25 (d) determining whether the vehicle is over-steered or under-steered depending on the comparison result obtained in

the step (C); and

(e) deciding whether a road surface is in a slippery state or not by using the vehicle speed data, the lateral G data and a specification of the vehicle such as a tread.

5 (f) controlling the damping force of the damper in response to the determination results made in the steps (d) and (e).

10 5. The method of claim 4, wherein if $\delta \cdot (\phi_d - \phi_{ms}) \geq 0$, it is determined in the step (d) that the vehicle is under-steered while if when $\delta \cdot (\phi_d - \phi_{ms}) \leq 0$, it is determined in the step (d) that the vehicle is over-steered, ϕ_d , ϕ_{ms} and δ representing the desired yaw rate, the yaw rate data measured by the yaw rate sensor 12 and the steering angle, respectively.

15 6. The method of claim 4, wherein whether the road surface is in the slippery state or not is determined in the step (e) by comparing the difference between the measured lateral G data and a calculated lateral G determined from the vehicle speed data and the specification of the vehicle such as the tread with a predetermined value.

20 7. The method of claim 3, wherein if it is determined in the step (d) that the vehicle is over-steered and the road is found in the step (e) to be in a low μ condition, the

damping force of the rear wheel is decreased in the step (f) while that of the front wheel is increased and if it is determined in the step (d) that the vehicle is under-steered and the road is found in the step (e) to be in the low myu condition, the damping force of the rear wheel is increased in the step (f) while that of the front wheel is decreased.

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